

REMARKS

Claims 1-20 are pending in the application. In the Office Action, the Examiner rejected Claims 1-6 and 9 under 35 U.S.C. §112 first paragraph, as not being in compliance with the written description requirement, and has maintained the rejection of Claim 4 under 35 U.S.C. §112 second paragraph, as being indefinite. New dependent Claim 20 has been added.

The Examiner has withdrawn his rejection of Claims 1-3 and 6 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,851,078 (Short); and Claim 5 under 35 U.S.C. §103(a) as being unpatentable over Short in view of U.S. Patent No. 5,506,433 (Ohori).

In response to the Office Action, Claim 4 has been amended to more clearly define the Markush group. Based on at least the foregoing amendments, withdrawal of the rejection of Claim 4 is respectfully requested.

In response to the Office Action, Claims 1-6 and 19 have been amended to more clearly point out that the object of the present invention is to build a plurality of different devices using a plurality of substrates, each substrate comprising a different material, on one chip by depositing the plurality of substrates within pockets formed in a carrier substrate so as to form a hybrid substrate (i.e., a substrate fabricated from a plurality of substrates [see Summary]). The plurality of different devices are built (or fabricated) on each of the plurality of substrates (e.g., materials 150A, 150B and 150C shown in figure 6 and described in the corresponding text, each being formed from a different single-crystal conductive material). For example, an optical device is formed on a GaN substrate. Similarly, other types of substrates are used to form other types of chips (e.g., a GaN-based high-electron mobility transistor [HEMT] is formed on a GaN single crystal substrate or a transistor is formed on a Si single-crystal substrate).

Regarding the Examiner's reference that the term "at least two different single crystal conductive materials" constitutes new matter, applicants respectfully disagree. It is well known in the art, and may go without saying, that electrical devices such as described in the present application are almost always formed on substrates made from single-crystal conductive materials. For example, substrates are commonly known to be made from silicon (Si), which is a

single-crystal conductive material. Furthermore, it is well known that any chip (e.g., a transistor device) must be made on a single-crystal substrate or else it would not provide the required performance. This is especially true for microcircuits such as described in the present application. Accordingly, the term single-crystal conductive materials does not constitute new matter, but is merely a reference to a commonly-known principle. Moreover, the term “at least two different single crystal conductive materials” (emphasis added) is not new matter, as the original application contained a number of similar references. See, for example, elements 150A, 150B and 150C of figure 6 and the description in the corresponding text. Accordingly, it is respectfully requested that the rejections of Claims 1-6 and 19 be withdrawn.

Applicants maintain that there is no new matter added; the claims have been amended to more clearly claim the present invention. Moreover, it is clear from a reading of the specification that each of the individual pockets with its deposited material, within the hybrid substrate, is itself a substrate. For example on page 4, lines 14 and 15 of the Application, different materials such as GaAs, InP, and silicon wafer are said to be provided within the three pockets of a hybrid substrate. It is well known in the art that these materials are commonly used as substrates for manufacturing electrical and optical devices such as those described in the Application. Moreover, page 4 lines 25 and 29 further refers to “dicing” the materials, a process for cutting semiconductor wafers into individual chips. Chips are well known in the art to be and are normally used as, substrates for manufacturing electrical and optical devices such as those described in the Application.

Furthermore, Claim 1 has been amended to more clearly indicated that “at least two substrates, each substrate being formed from a different material” are “deposited within a separate pocket of the plurality of pockets” which is a distinguishing element of this Application, and is neither shown nor disclosed in either Short, which teaches a method of forming a dielectrically isolated silicon on insulator semiconductor device using a double wafer bonding process or Ohori, which teaches a silicon on insulator structure having a single crystal layer semiconductor material contacting a single crystal substrate of sapphire.

In light of the discussion above, it is respectfully submitted that independent Claim 1 overcomes the stated rejections. Without conceding the patentability per se of dependent Claims 2-6 and 19 it is respectfully submitted that these claims also overcome the rejections by virtue of their dependence on Claim 1.

Applicants submit that Claims 1-6, 19 and 20 are in condition for allowance. Allowance is respectfully requested. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,



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